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CONSIDERATIONS

O N

BILIOUS DISEASES, &c.

Price One Shilling and Six-pence.

CONSIDERATIONS
O N
BILIOUS DISEASES:
A N D
SOME PARTICULAR AFFECTIONS.
OF THE LIVER, AND THE
GALL BLADDER.

By JOHN ANDREE, M. D.

“ AD UTILITATEM VITÆ, OMNIA CONSILIA FACTAQUE
“ NOSTRA DIRIGENDA SUNT.” Tacitus.

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MDCCLXXXVIII.

## ERRATA.

- Page 51. line 14 for *it's* read *the*, and add  
after insertion of *the ductus communis*.  
Page 54. line 11. for *evacution* read *evacuation*.  
Page 9. line 10. for *ee* read *æ*.

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T H E  
P R E F A C E.

**B**ILIOUS Diseases are among the most common of the chronic distempers of the inhabitants of england, and therefore merit the peculiar attention of medical practitioners. During part of the last twelve years, I have had too much reason to lament the imperfect state of this part of medical knowledge, having been nearly so long subject to a bilious disorder, undescribed by any authors, and opprobrious to my own, and learned friends kind medical aid.

Failing in the requisite knowledge of these kind of diseases, in the common course of medical learning, my next recourse was to anatomical investigation; by embracing every opportunity of examining the parts affected,  
by

by dissection of many who had been afflicted with such disorders. Having flattered myself that some of the opinions contained in the following pages will tend to the relief of mankind in such diseases, I felt it a duty incumbent on me to submit them to public inspection in this, far from perfect state, satisfying myself with “*mens sibi conscia recti.*”

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The Dropsy being not unfrequently preceded by bilious disease, I trust the introduction of the following remark will not be judged wholly irrelevant; to wit, that when it has continued for a certain length of time, that is to say, is become a chronic distemper “the hasty evacuation of the water” whether by medicine or surgical operation, “will hasten the death of the patient, apparently from inanition.”

Hertford,  
May, 1788.

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## CONSIDERATIONS, &c.

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THE general opinion of bilious diseases, occurring in england, has hitherto been, that they arise from an encreased action of the bile. This, however, appears to me not to be well founded: and I think they may with more propriety be deduced, from, either a redundancy of bile,—from a less quantity being secreted than is natural,—from mis-placed bile,—or from the state of the bile itself.

Under these general heads it shall be my endeavour to elucidate this subject. Previous to which it may not be improper to give a brief anatomical description of the liver, the gall bladder and ducts.

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The liver, is the largest gland in the body; of a dusky red color. It is situated principally on the right side, and upper part of the abdomen, being covered by the lower part of the ribs and their cartilaginous appendages. It covers the upper part of the stomach, and some of the bowels; it adheres to the diaphragm, a thin expanded muscle, separating the cavity of the chest and the lungs, from the abdomen. It is tyed to the breast bone by a broad ligament, and to the navel by a round one. It is nourished by the arteriæ hepaticæ: but its blood vessels, from which the bile is secreted, are the branches of the vena portæ, which distributes its blood like an artery, in order for the secretion of the bile. Its weight in a middle sized man is about three pounds twelve ounces.

The gall bladder is a small membranous bag, seated in the hollow part of the liver; ending in a duct called cysticus, which is united to another duct coming from the liver  
named

named hepaticus, and from these, thus joined, commences the ductus communis cholidochus; which enters the first gut near the stomach.

All the bile secreted in the liver passes thro' the hepatic duct in its course to the gut, and a part regurgitates into the gall bladder.

The first subject is a redundancy of bile.

This has ever been considered as one cause of diarrhæa's, more common in warm climates than in england, where I think it is frequently productive of a constitutional lax habit of body.

Another effect of a redundancy of bile is a vomiting of that fluid, appearing as the effort of the constitution to free itself of the redundant quantity of bile. Of this I have seen some, besides the following instances, terminating in or followed by other distempers.

This discharge of bile becomes in some instances habitual, and I have also remarked it to become periodical, and most usually to happen either on a full, or on an empty stomach; for example, at first rising out of bed, or after eating a full meal; instances of each of which I have known. This symptom may continue many months, perhaps years, without materially injuring the constitution.

J. H. Esq; aged twenty-five years, of a healthy and strong constitution, in 1773, began daily to vomit soon after dinner much of what he had eat, and some clear bile. This continued for three years, without any evident injury to his health, and then disappeared. His father is gouty, and himself has had several attacks of disorders attended with plethora. This symptom appeared in this case as the effort of the constitution, to throw off a surplus of bile.

W. A. S. Esq; aged forty, has passed at  
different

different times six years in India, where he had repeated attacks of bilious disease. He enjoys, when living very cautiously in both eating and drinking, good health. Fat, and butter, taken freely, or a hearty meal of rich high fauced victuals, always produce a bilious vomiting. The remedy this gentleman uses is an aloetic purge, whenever his bowels are not in a rather lax state. For costiveness in him, brings on oppression at the stomach, head-ach, and some appearance of jaundice, especially about the eyes.

L. W. an unmarried lady aged twenty, was seized in 1785, with vomiting of bile in the morning, at first rising in the bed, which returned daily for five months. She then had frequent attacks of the same in the afternoon. This having continued near a twelvemonth ceased, costiveness ensued, and a dropsy put a fatal period to the disease. In this case it is highly probable these ill consequences might have been prevented, had a course of aperient medicines

medicines been adopted when the bilious discharge ceased, which should have been joined with or followed by tonics.

Another effect arising from this cause is a re-assumption of bile into the circulation, demonstrated by its producing symptoms of jaundice, recurring frequently on the commitment of any material error in diet. This is shewn by its producing yellowness of the eyes, and skin, particularly about the temples; from a continuance of such cause, a confirmed jaundice may also ensue.

Mr. N. Silver Smith in the Strand, aged about thirty-five, in August 1786, consulted me, he had then been four months afflicted with a confirmed jaundice; for which according to his own expression he had taken his hat full of medicines without receiving any benefit. His health was otherwise good; he was rather costive, but had very little uneasiness, nor had he ever felt any acute pains or spasms

spasms in the right side or near the liver, so as to give any reason for supposing there were bilious calculi.

After maturely considering his case, it occurred to me that the disorder might be caused by an excess of bile. I therefore prescribed for him, pills of aloe, sapo, rhabarb. and gum. ammoniac. in order to keep the bowels gently lax. And thrice in the day to take a tea spoonful of elix. vitr. acid. and tinctur. stomach. each equal parts. Also to leave off butter and fat, and to eat plentifully of china oranges, and other mild acid fruit.

He found benefit from the medicines in a few days: and his jaundice was completely gone in a fortnight.

He then left off the medicines, and his disorder returned in September, when it was again cured by the same means. The beginning of December he had another relapse, and

and was then cured by the acid drops alone.

It seems also to be capable of inducing some degree of debility of the muscles. And I am strongly persuaded that some obstinate eruptions on the skin arise from this cause; some instances of which I have seen. But this excess of bile (when become acrid or putrid) absorbed into the blood is also to be accounted as the exciting cause of bilious fevers not uncommon in england in spring, autumn, and hot and dry summers, and one of the most common diseases of europeans in the east and west indies.

English practitioners in the west indies talk of an acid and an alkaline bile, alledging that in the former acids encrease the disorders, in the latter are serviceable. That acids disagree with some of the disorders of the bilious kind is certain, but when it is considered that the stomach does in some cases secrete an acid it will tend strongly towards the  
overthrowing

overthrowing of this theory. Their practice however is judicious, being to procure an immediate and effectual discharge of the offending fluids by tartar emetic: and then to throw in the bark boldly, which they alledge to be found by experience to be the only safe method of cure, and prevention of bilious fevers of the most fatal kind. That the bile does sometime<sup>s</sup> become of an irritating quality so as to produce diarrheea and some fevers, I think highly probable; though in my opinion less frequently so than is supposed. In the cure of which the physicians attention should ever be fixed on the cause of the disease. The ordinary practice of physic in disorders arising from this cause being judicious; it will not be for me to add much on that subject.

In addition, however, to the ordinary remedies, I would recommend the liberal use of acids duly diluted, that is, in the patients liquids; on the principle of their partially decomposing the bile, and thereby lessening

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the symptoms. The human bile being of the nature of a liquid animal sope \*, it is consequently of an alkaline nature, which the acids have a tendency to decompose and thereby render inactive: the good effects of the above regimen I have experienced. The liberal use of mild acids is found of the greatest benefit in such diseases in the west indies; where it is even customary for patients to drink sherbet, in order to promote the operation of a cathartic medicine.

In the east indies also, mild acids have been found useful in bilious diseases. In Dr. G. Fordyce's elements of physic are these words: 'a moderate use of sour fruits, in warm summers and hot climates tends also to prevent the disease: viz. diarrhæa, dysentery, or cholera morbus.

But should acids disagree, which may arise from the action of the stomach; plentiful di-

\* Bilis sapor est. Haller, primæ linæ physiol.

lution with water rendered palatable, is to be recommended, from its readily uniting with the bile, which would be thereby rendered less active or pungent.

Imperial water, old hock and water, cyder, and wine duly diluted may be allowed, whey or tea. Malt liquor usually does harm, and spirits should be strictly forbidden.

It is also to be considered that moderation in the quantity of acid taken is necessary, for if more is taken in than what is necessary for the decomposition of the bile and other juices, the acidity of the superfluous quantity remains; which might produce the ordinary symptoms of acidity, in the stomach and bowels. Whereas, on the contrary, if the intestines are over charged with animal food, it will tend much to encrease the symptoms in this kind of bilious habit, either by producing a greater quantity of bile, or of a bad quality, and having a considerably greater ten-

dency to become tenacious and putrescent, than it in a healthy state should be endowed with.

In support of this doctrine, let it be observed that europeans living in hot countries who eat much of animal food, are by far more subject to bilious diseases, than the natives, whose diet consists more of vegetable and grain, and whose drink is water.

Moderation in the quantity then is indicated, and animal food should be allowed only once in every day, and probably one or two days abstinence in every week from such diet, would be of further advantage. The remainder of the food should be attenuant, (nutritive, farinaceous diet, port wine and madeira are also strongly recommended \*, ) easy of digestion, and mostly vegetable : whereas salted meats, most kinds of fish, sweet cakes, butter especially when melted, and fat of meat, are hurtful.

\* Dr. Blane on diseases of seamen.

But

But another most essential circumstance for such subjects to attend to, is the due and constant preservation of a moderately lax habit of body. If this can be accomplished by diet, it should be preferred to medicine. But general rules for this cannot be laid down, because every such patient attentive to his own health, will from observation be enabled to ascertain the kind of diet most conducive to this end. Substituting honey (which where it agrees is one of the most salutary ingredients in diet) instead of butter, I have known answer this purpose well; and the drinking some warm water gruel at going to bed has tended much to this \*; the total abstinence from butter and fat should also be tried.

#### Exercise

\* A friend of mine told me that last september, being in norfolk on a shooting party, he was attacked with a cholera morbus, the vomiting continued at intervals during the first day and then ceased. On the ensuing two days he had a bilious flux, having he thinks not less than thirty dejections on the first day, and twenty the second. He lived upon thin oatmeal gruel, which he found

Exercise is another, and a most powerful healthy stimulus to the liver, bowels, and digestive organs.

It however should be adapted to the patients strength and its effects.—Riding on horseback is with justice accounted the best exercise for the bilious: this should also be joined with change of air; that of a dry and bracing kind is to be preferred.

Any exercise is adviseable which will necessarily induce the patient frequently to stoop or bend the body in various directions \* . Swinging, (lately recommended for consump-

found to agree better with him than any other diet: and the disease went off without the aid of medicine.

In Dr. Blanc's observations on the diseases of seamen are these words, on the subject yellow fever, " in one case which did well the patient was led by taste to prefer warm water gruel to every thing else, and the great quantity he drank, &c.

\* Of such medicinal use has muscular exercise been considered, that Fuller and others have written on medicinal gymnastics.

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tion,) might be tried with some prospect of advantage, on the same principle; as an exercise well adapted to assist such cases in a harmless manner. Whereas I have known violent jolting of the body, for example on a hard trotting horse produce pain and exaggerate bilious symptoms: and if there were rugged biliary calculi in the gall bladder or ducts, might even move them so as to irritate and bring on violent spasmodic pains in the parts affected, and even be attended with some danger of lacerating the ducts \*.

It is also certain that the mind has a powerful influence upon the biliary parts. I have known attacks of bilious disease repeatedly brought on by vexation, or anxiety of mind.

Hildanus has remarked that blows of the

\* I am told of a case of the wife of a gentleman of the faculty in London, having died of a rupture of the gall bladder, from laceration with a gall stone.

head,

head, have brought on fatal diseases of the liver. A bilious vomiting is a symptom following often, very quickly after accidental injuries of the brain, and sun strokes in the east indies. May not therefore the liver and its ducts, as well as the stomach be supposed to sympathize with the brain?

The bowels it has been said should be kept open. If this cannot be accomplished by diet, such purgatives as will act without stimulating, are to be administered. But no general rule can be laid down for this; various remedies agreeing with different persons. Castor oil is a valuable medicine for this purpose. Manna with salts warmed with some cordial water, is used with advantage by some, rhubarb possessing a tonic effect upon the bowels is to be recommended, and the aloetic kind for its certainty of operating is in some cases to be chosen: calomel and rhubarb given together, are said to bring away more bile than any other purgative. But the best  
laxatives

laxatives are purging mineral waters, of which the kindliest in their operation are the cheltenham waters, being endued with the peculiar property of keeping the body open without debilitating \*.

Sailing, in obstinate cases might also be recommended, as productive of a sickness attended with extreme languor, or atony equal to the action of opium; or a fainting from the loss of blood, without so much debilitating the system: much benefit may also be derived from the bracing effects of the sea air.

The last indication of cure is to strengthen

\* In such request are those waters, that I am informed by my friend G. Vaux, surgeon in london, that a patient of his who visited cheltenham last summer, assured him that they were drank in such quantities that the spring was not more than sufficient, at some seasons to supply such persons as visited them for their health: so that the proprietors were obliged to deny the inhabitants of the place the privilege of drinking these waters at such times, in order to accomodate strangers.

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the tone of the vessels of the liver. For this purpose chalybeates may be recommended: the peruvian bark has been advised, but is found not to act kindly in bilious diseases; the columba is now preferred, especially in india, where bilious diseases are more common than in england.

This bilious habit of body is also in some instances constitutional and not productive of disease, attendant upon what is called the hot constitution, that is, vigorous and irritable mind, with a warm surface of the body, quick circulation, and tendency to inflammatory diseases.

Another extraordinary bilious disease, is the enlarged gall bladder. Of this disorder I have the following case to relate, through favor of my friend Mr. Cline, surgeon to St. Thomas's Hospital.

S. M. aged sixteen, had a troublesome  
cough

cough for several months, attended with pain in the right hypochondriac region. On the same side a tumor gradually formed, and distended the cavity of the abdomen: a fluctuation being distinctly felt, a trochar was introduced. By this operation more than twenty ounces of bilious fluid was discharged. During the evacuation, he complained of great pain in the part and in his right shoulder: symptoms of inflammation soon followed, and he died on the seventh day after the operation.

He had been in an ill state of health about twelve months preceding his death, but without any suspicion of obstruction to the passage of the bile; for his skin had not been discoloured nor his stools apparently altered.

Mr. Cheston, of Gloucester, examined the body, and found the gall bladder, containing about two quarts of bile, extending from its usual situation down to the pelvis, and adhering to the peritonæum omentum and part

of the stomach, all of which were inflamed, The biliary ducts were greatly inflamed, except where the ductus communis cholidochus enters the duodenum, which part was contracted, but admitted the bile, with some difficulty, to be pressed into the intestine.

Van Swieten, in his commentaries on Boerhaaves aphorisms, relates a case of a lad twelve years of age, in whose gall bladder eight pounds of thick bile were found,

The second subject of consideration is a diminished secretion of bile.

The symptoms of want of bile may be thus described; loss of appetite, costiveness, hard and clay coloured stools, at times of a putrid faecal, a peculiarly sickly paleness of the face, loss of flesh, indigestion, attended with flatulencies, a languor of the body and mind and spasmodic asthma.

I am strongly of opinion that many (perhaps, it will be found that the greater number of) asthma's are caused by disease of the liver. In india bilious disease is accounted as the cause of some coughs: and the late Mr. Pafeley, an ingenious and sensible practitioner in india remarked, that in all confirmed diseases of the lungs, the liver was affected. — He even supposed every chronic distemper to originate from disease of the liver. — Another remark of the same gentleman was, that in all liver diseases the urine was high coloured.

Such are the symptoms too often seen as the consequences of dram drinking, and in such cases usually the harbingers of fatal dropsy.

Some of these symptoms are attendant upon the schirrus liver, and may perhaps be sufficient to mark that distemper. It is the common practice to examine by the hands externally on the abdomen, when an induration of  
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the liver is suspected, on the idea that it is always then enlarged. The following cases however evince that such examination is not to be depended on; for it is by these proved that such disease may occur with a decrease of its size, in which situation it would not be perceptible by an examination during life with the hands.

This observation I made fifteen years since, on having twice found the liver diseased and tending to schirrus, and at the same time shrunk within the margin of the ribs, so as not to have been perceptible by manual examination during life.

J. G. aged fifty, after great fatigue from travelling, was seized with pain in the chest, cough and spitting, attended with shortness of breathing, particularly after eating. A spitting of blood then ensued, which however ceased a month before death, during which time he was free from pain in the chest, but could not lay on his right side. A

A sudden profuse bleeding from the lungs, suffocated this patient. On dissection some slight disease of the lungs was discovered. The liver was indurated, diminished in size, of a paler color than natural, throughout its whole substance: and the gall bladder was very much thickened.

Dr. Girdlestone on hepatitis, asserts that “catching of the breath, in inspirations is a symptom of the inflammatory state of the liver: and that a deep hollow sounding cough is a symptom of an abscess in that gland.”

B. J. aged forty, had been for many years subject to pains in the right hypochondrium, which returned periodically, and were often accompanied with vomitings and asthma. Among other less morbid appearances, such as serum between the membranes of the brain and it's ventricles: the liver was found hardened, but not enlarged.

Another

Another kind of indurated and diminished liver which I have also met with, is that in which it's surface is raised in half rounded eminences, appearing like granulations, covered with the proper membrane of the liver.

In one of these cases, the particulars of which I have inadvertently lost, the patient died dropfical.

A gentleman aged fifty-nine, was attacked in May, 1787, with lassitude, loss of appetite, and pains in the loins extending towards sometimes the one, sometimes the other shoulder, the urine also was very thick and red, with a tinge of yellow, and deposited a thick red sediment; it at times was charged with a ropery mucus, somewhat resembling matter. The pulse was small, and for the most part slow. These symptoms were regarded as what is vulgarly called a breaking up of the constitution: and palliatives only were prescribed.

Having

Having discovered some yellow tinge of the skin and eyes, I advised that the case should be treated as bilious: and prescribed pills of aloes with gum ammoniac. soap and rhubarb.—After a lingering disease of five months, the unhappy patients sufferings terminated in death. During this period he was often attacked with asthma. It was spasmodic: attacking him at various intervals, and admitted of no relief but from opiates.

During the progress of this disease, various medicinal plans were pursued, such as sedatives, balsamics, mercurials in small doses, solvents of calculus, and laxatives; to which were added change of air.

Another remarkable symptom in this case was the elevation of the shoulders, observed as a symptom of diseased liver by Bontius, whose translator, styles it, prominence of the shoulders. Also by Dr. Girdlestone, and others of the moderns.

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On examination after death when the abdomen was opened, the omentum, stomach and bowels, also the kidneys and ureters were free from disease, as were the other parts, excepting the liver, which was reduced to about one half it's natural size, and remarkably indurated; and at the outer part to the depth of three-eighths of an inch positively as hard as gristle, and the remainder completely schirrus \* . It

\* Riolan relates that he found in a body which he opened at Paris, the liver so small as scarcely to equal the size of a kidney.

Van Swieten writes that he has sometimes found the whole liver schirrus, and contracted, or greatly diminished in bulk, juiceless, and tough like leather.

Dr. C. H. Velfe, in his inaugural thesis at leyden, 1742, relates a case in which the liver was hard, rigid, of diminished bulk, and beset with solid rough tubercles, over its whole convex surface.

Du Verney found the liver so dried in half its substance as not to exceed the thickness of his thumb.

The late Dr. Hunter in his lectures, related a case in which the liver was schirrus and much shrunk or diminished.

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It appeared then that it would have been impossible to have discovered by manual examination the nature of these diseases of the liver, since in all these cases it was contracted above the margin of the ribs, consequently covered by bone, and beyond the reach of the hand in an examination \*.

In the following case the symptoms were of the same kind with the former, although the liver was enlarged.

A. W. aged forty years, had been long afflicted with a large hard tumor on the right

In Matthews's observations on hepatic diseases, page 202, are these words; the liver was found remarkably small and hard in a patient who died of hepatic dysentery.

The celebrated Ruysh found the liver in two instances of dropfical subjects, indurated and not enlarged.

\* On the contrary the liver has been found enlarged, so as to weigh fourteen pounds four ounces, and extending over great part of the abdomen: and often to extend much below the margin of the ribs.

side of the abdomen, painful to the touch ; attended with thirst, slow fever, difficulty of breathing and vomiting.

On examination after death, the tumor was discovered to be the liver grown to a great bulk, it's right lobe extending almost to the lower part of the belly.

This lobe in particular was universally indurated, as was the remainder of the liver, though not so much so in it's inner part. The coats of the gall bladder were thickened, it's cavity small, and containing some black, thick, viscid bile.

The lungs had no other diseased appearance, excepting some dark colored spots.—I forbear inserting more cases of this kind, because such may be found in various authors, attended with many of the most distressing symptoms above recited.

It appears to me that the symptoms already recited, likewise violent pain in the kidneys extending up to the shoulder, urine of a deep yellowish red color, and depositing a sediment seeming to be red particles of blood, loss of appetite, indigestion, and flatulencies in the stomach and bowels, were chiefly caused by the want of bile; but that these symptoms were to have been in part attributed to the diseased state of the liver, is also allowed.

Further that it is productive of a peculiarly morbid complexion, neither yellow, consumptive, nor pallid, but of such a peculiar ill aspect, (a kind of leaden color,) as I suppose is not describable by words, but probably an attentive observer would ever remember, having once thoroughly noticed.

The cases above recited, it is true ended fatally; but had their cause been known, another

ther and powerful remedy should have been used, viz. a regular course of mercurial frictions.—Most of the above symptoms in a less degree; are not uncommon, especially in those who have suffered liver disease in hot countries: sometimes happening from inflammation of that gland, having left it in an indurated state \* .

In addition to the above, as a palliative, I would recommend the bile of animals inspissated, (that of the ox has been given,) in the form of pills, in order to supply the want of the human bile.

This has been found a successful medicine

\* The term obstruction is still familiar in physic, for example an induration of the liver is stiled an obstruction, an induration and enlargement of the mesenteric glands is called an obstruction of them; it is used in conformity to the boerhaavian theory of inflammation: but is repugnant to the known laws of the animal œconomy.

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for epilepsy \* , accompanied with a bloated and pale countenance, which I think not improbably to have been cases of diseased liver.

The method of cure then should be, first to attempt the resolution of the induration of this gland, by the ordinary deobstruent and attenuant medicines; of which the aloetic kind, assisted with rhubarb, sopo, and alkaline salts, may be first tried: which in an incipient state of congestion of the liver, might very probably be effectual.

Strong or cold purgatives are dangerous: the former by their irritating quality might induce inflammation: and the latter I have known bring on a jaundice, once in myself; also

\* Vide Dr. Duncan's medical commentaries for 1738, page 162: ox bile recommended for epilepsy, by the late Dr. Quarin.

in another case when prescribed by a physician of eminence \* .

The next plan which I think merits a trial; but to which much time should not be given up, is the cicuta, the extract, now called succus spissatus, which should be given twice a day, encreasing the dose gradually to the utmost quantity that can be taken without inducing much pain or dizziness in the head: tartar emetic in small doses may be joined with this medicine, in order to render it more active.

But the most effectual remedy in such cases, is a course of mercurial inunctions †, so conducted as to excite a moderate salivation,  
or

\* Each of these cases happened in hot weather.---A due regard to the correcting the ill quality of the bile previous to it's hasty evacuation, is therefore worthy of attention, especially at such seasons.

† The celebrated Dr. Cullen in his lectures, with his well known candor and liberality of sentiment has said.

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or at least some degree of soreness of the mouth.—The frictions were at their first introduction among the british, made on the region of the liver: but it having been found that the act of rubbing-in the ointment over this diseased part was of prejudice, the common mode of rubbing it into the lower extremities was substituted: and it's success has justified the practice. Mercurial purgatives are also to be interposed occasionally: for these, assisted with camphor, opium, or such other medicines as the symptoms shall require, may effect a cure in an early state of the disease.

*Solvens mineralis* a sublimation of arsenic, prepared at apothecaries hall, and highly extolled by a physician of eminence for it's good

we have lately learnt from the gentlemen practitioners in the east indies, that the liberal use of mercurials is the only effectual means of discussing congestions in the liver. ---It is also asserted that to the full proportion of nineteen in twenty of such cases are thus cureable. Vide Matthews citat.

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effects

effects in schirri, might also be tried. It is to be given in doses of the tenth of a grain, twice a day, encreasing the dose gradually.

The use of the bath waters at bath, is also a remedy highly deserving attention; where the circumstances of the case will admit of their use.

The medicinal treatment having been briefly spoken of, it may be proper now to treat on the diet best adapted for these cases.

The food should be nutrient and easy of digestion; of this kind of flesh, are the (*feræ natura*, game) poultry, and such kind of fish as have the same qualities: of common food the choice will depend on the patients experience of that which digests best, and sets easiest on the stomach. Salted meats, fat, butter, and lard, particularly as introduced in pastry, should be avoided. However, such patients having seldom inclination or ability  
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to eat much, even enough to preserve a due degree of strength in the constitution for it to combat the disease; the principal rule to be observed in their diet, is not to overload the stomach with a large quantity of food at any one time. The food should be attenuant: the drink may be whey, water, tea, barley water, occasionally taking some such cordial as wine, (with egg or spice when requisite) cyder may be advised, as may a light infusion of ginger or orange peel.

In many instances, bilious diseases having been brought on by gross feeding, and want of exercise, the article of diet in such, becomes a matter of the most serious consequence. It is a very just observation that diet is capable of producing greater alteration in the human body than medicine, and with less injury to the constitution.

The late Dr. Huxham in the preface to his essay on fevers, says, on the subject of diet,

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“ what we use by ounces and pounds cannot but considerably affect us. And adds, that Hippocrates and the ancients were very careful in prescribing a very exact regimen.” In short, if error in diet is the cause, remove the cause and the effect ceases: I wish not to be misunderstood, as meaning that an indurated liver can be cured by any change of diet, though that might be capable of alleviating the symptoms. For the same author adds from Hippocrates (as his apology for not giving many formulæ of medicines,) “ he that knows a disease, knows what is proper to cure it.”

During either of the above courses, painful symptoms may be safely palliated even by opiates, provided the bowels are kept open.

Bitters it has been said should be given, tho' their safety when long continued is not thoroughly established: as a stimulus to the stomach they may tend to excite appetite, but  
from

from their tendency to excite contraction of the vessels, their action upon the biliary passages might tend to encrease the obstruction to the bile's free passage: provided the disease should happily yield to medicine, towards the conclusion, the cautious use of bitters \* with chalybeates may be with propriety for a time prescribed, in order to strengthen the weakened vessels of the liver, and digestive organs, and thereby prevent a relapse. Of chalybeates those mineral waters which are laxative, such are those of tunbridge and islington, are to be preferred to the medicinal preparations of steel. And the columba root as a tonic and stomachic should be administered; for it is asserted by practitioners of physic in india, that it will effect this purpose fully and with safety: whereas the bark is by them reckoned productive of future obstructions.

\* There is some reason to suppose they are injurious to the eyes; and their long continued use certainly tends to weaken the stomach.

I cannot conclude this article without subjoining, that spirits should be religiously refrained from. The familiar experiment of soaking a piece of flesh in spirits, demonstrates their power of hardening animal flesh, and this effect in some degree must be allowed to take place upon the stomach and liver, in the living body.

The third subject for discussion is misplaced bile.

The *morbus regius*, *icterus*, *morbus aquatus*, or jaundice, is the most obvious example of misplaced bile.

It consists of a mixture of the bile in the circulating mass of blood, distinguished by a yellow colour of the skin and eyes, attended with high coloured urine, staining linen yellow : costiveness and white hard stools, sometimes foetid. It is usually productive of  
languor

languor of body and mind, coldness or chilliness \*, loss of appetite, uneasiness in the right hypochondrium particularly on pressure, heat about the nostrils, and an itching of the skin. In the advanced state every thing tasted seems bitter. The saliva and blood are tinged; and the whole contents of the abdomen and thorax, likewise the brain and the bones, have been found yellow on dissection. The eyes also as the poet remarks, "*lurida præterea cernunt, quæcunque spectantur arquati,*" are said to be sometimes so affected, that all objects appear yellow. This however was not so in my attacks of jaundice, nor have I ever met with an instance of it †.

\* The pulse has been found remarkably slow in some instances of jaundice. The late Dr. Hunter found it in one case only thirty-seven in a minute.

From these circumstances may we not allow, that one use of the bile is, to assist in generating heat in the body?

† This opinion was maintained by Galen and others of the ancients. And two cases in which it occurred are mentioned by Hoffman, and one by Sardona in his *Aphorisms de cognoscend. et cur. morb.*

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This disease originates from various causes, the most obvious of which are mechanical obstructions of the biliary ducts. These may arise from biliary calculi; from obstructions in the biliary follicles of the liver; from induration or schirrus of some adjacent part pressing on the ducts: and another, and I suspect more common cause to be a contraction of the gall ducts themselves: visciditv of the bile may also be admitted as another cause.

That the gall bladder and its ducts are liable to generate concretions called calculi, has been known from before the time of Galen. The calculus felleus is a more frequent disease than is imagined. These stones are of all varieties of figures and divers colours; they are however usually of a triangular shape when many in number; and of a darkish brown color. This figure of the human gall stones has not ever been rationally accounted for. They vary also much in degree of consistency; some being soft and friable,

friable, which are generally of a light color.—Some will swim in water; and others sink.—In size they have been found to weigh even some ounces, and in number actually many hundreds. Some of these gall stones, when held to a flame take fire and will burn like rosin: whereas others will not burn but melt like wax.—The solid dark colored ones do not dissolve by gentle coction, either in spirits or water: of some, above one half will dissolve in warm water.

A peculiar and not uncommon appearance of gall stones, is a great number of very minute black ragged granules.

Mr. Cline mentioned to me, that in one case he met with the gall bladder distended with a transparent rosey fluid, not in the least colored with bile, and in which the cystic duct was imperforate. In this gall bladder several small irregular black calculi were contained. This fluid was probably secreted by

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the internal coat of the gall bladder, which from its great vascularity seems capable of performing that function: and it is probable that these calculi were formed by that secretion, consequently not biliary calculi.—Also in another case the cystic duct was entirely obstructed by a calculus, and the gall bladder was distended by the same kind of fluid as the former, and contained the same irregular substances.—In both these cases, bile was contained in the *pori biliarii* and the biliary ducts, in the usual quantity.—From which circumstances it appears probable that these kind of concretions, are formed by the fluid secreted in the gall bladder.

Biliary calculi are no less various in size and number, than common as a disease, or appearances after death. Many extraordinary instances of which may be seen \* in papers published

\* Numerous authors recite cases of these calculi, as Galen, Du Verney, Vaterius, Fernelius, Vellingius, Gentili.

published by the medical societies of most countries.

The symptoms caused by them vary, from the most violent lancinating and spasmodic pains in the region of the gall bladder, even to the least imaginable inconvenience.—And on the contrary, there is no doubt from the frequent instances of such concretions having been discovered after death, where no bilious affection had preceded, that such may, and do frequently happen without perceptible inconvenience.

Gentili, Niculus, Fallopius, Haller, Morgagni, Hoffman, &c.—Vesalius found in the body of Prosper Martelli, the gall bladder twice the size of a fist, and filled with calculus granules like the seeds of millet.

Dr. Hunter in his lectures used to recite the case of a young woman, in whose gall bladder were found 1100 gall stones, and yet no pain or disease of the digestive organs had preceded.

The celebrated Dr. Mead found a gall stone weighing two drams, in the gall bladder of the late Lord Bath, notwithstanding which, neither pain in the part, nor jaundice had preceded.

Lithotomy has been advised for the removal of these stones. This however has arose from the uncandid representation of a very uncommon case, but which has I know occurred; to wit, of an abscess forming between the calculus, and the integuments of the abdomen. In this case when the matter is let out, the stone may be felt by a probe or the finger introduced into the wound, and possibly extracted. But the kind and wise process of nature in such cases is, first to form a complete adhesion between the gall bladder or ducts and peritonæum, so that when such abscess is opened, the cavity of the belly remains unexposed, that is, not cut into. One case of this kind I have seen, in which the abscess had been opened, and a fistulous aperture remained leading to a gall stone. In morgagni de caus. and sed. morb. are three of these cases. The first was cured: the second had a fistula left, by which a thin yellow liquid was discharged: the third had an ulcer remain, which with it's sanies, discharged bilious calculi at times.

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The remedies for this disorder are laxatives joined with diuretics, neutral salts, emetics, and opiates: — solvents have also been recommended.

It appears necessary to caution against the indiscriminate use of stimulant purgatives or emetics, from the danger of their encreasing the pain and irritation. For it is to be considered that any stimulating medicine, would by encreasing the irritation of the biliary ducts, tend to exaggerate the symptoms.

Biliary calculi of such remarkably large dimensions have been discharged by stool, that practitioners were puzzled in endeavouring to account for the course through which they came.—It has been supposed, from the impossibility of their passing through the ducts, that they were generated in the stomach or bowels.—But Mr. Cline having found the gall bladder adhering to the duodenum, and a direct aperture from it into that intestine: —

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(which parts are among his anatomical preparations:)—It appears that in this course a stone of any dimensions, confined in the gall bladder, might take it's passage directly into the gut, and be discharged by stool.

Opiates properly timed, will be found to be the sovereign remedy in alleviating the pains and spasms occasioned actually by such calculi, or by the obstructed bile itself. But they should be joined with laxatives; and so much of an emetic medicine, as would excite some degree of nausea without vomiting should also be administered with them. The warm bath, or fomentations to the hypochondriac region may afford relief.

Solvents for these calculi have likewise been proposed, and are highly extolled by some authors. The juice of common grass has been called a specific; founded on the remark that oxen fed on dry fodder are subject to such calculi; from the symptoms of which feeding

OR

on grafts cures them.—But when we reflect on the course in the circulation, that such medicine must take before it arrives at the liver, in order to mix with the bile, and to act as a solvent on these calculi; the difficulty of introducing a sufficient quantity of any such medicine will be evident. Much however may be expected from diet of an attenuant kind, partaking much of vegetables, and the free use of warm diluent drinks are also to be recommended, in order to attenuate the bile, unless there was any tendency to dropsy.—In jaundice long continued, and arising from a viscid state of the bile, an attenuating diet consisting principally of vegetables, may be considered as the chief means by which a cure is to be expected, for this obvious reason; that the bile being secreted from the blood returned by the veins from the abdomen, it's nature will depend very much upon, and may be very easily altered by diet. For beverage, hock and water, or in it's stead cyder and water is highly proper, as is water by itself,

or a light infusion of some grateful aromatic or mild bitter; whey is also proper. Sour fruits might also be of service; acids and some of their compounds having the power of decomposing the bile \*.

On the subject of exercise, the same observations will apply that were made on the use of cathartics and emetics. It is capable of doing harm; as may negatively appear from this circumstance, that bending the body forwards for any length of time, as in writing or reading upon a desk, is particularly hurtful in most bilious affections. Gentle exercise on horseback, sailing, or swinging, may be recommended: and what is vulgarly called standing on the head is no ways improper. The criterion by which I should judge of the safety of exercise would be of it's encreasing the pain or not.

The next kind of jaundice, is that arising

\* Fordyce Elem. pract. physic.

from

from the pressure of some indurated part on the biliary ducts. Cases of this kind are to be found in some of the authors mentioned before. The symptoms of this I should suppose are also to be collected negatively, to wit, from the absence of the symptoms ordinarily attendant upon jaundice; from it's not being attended with pain in the epigastric, hypochondriac, or umbilical region, (which latter Hoffman asserts to be the most clear indication of gall stones;) from it's not yielding to the remedies recommended for common jaundice, continuing long without intermission, or from it's having been preceded by symptoms of obstructed viscera.—In one case of this kind an incurable jaundice was caused by the pressure of a schirrus pancreas upon the ducts of the gall bladder.—An inflammation happening in the concave part of the liver, is also in some instances productive of jaundice.

The remedies most likely to afford relief would probably be a mercurial course, cicuta,

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or

or the solvens mineralis.

The next cause of jaundice enumerated, is contraction of the biliary ducts themselves.—One instance of this disease I met with in the examination of the body of a gentleman who died of a fever, but had been previously often afflicted with jaundice.—In this case, the ductus communis cholidochus was near it's opening into the bowel so contracted, that a large pin would scarcely pass, and such a tenacious fluid as bile with much difficulty. Another proof of this may be drawn from the effect of the mind, in some who are subject to the jaundice, in whom anxiety and other passions, will bring on this disorder in a few hours; which can best be accounted for from supposing this may induce spasm of these ducts.—Some poisons are also productive of this, which may be called the spasmodic jaundice, as the bites of venomous animals.—The principal remedy for this jaundice will be antispasmodics, and even opiates if those  
should

should not be successful \*.

A viscid state of the bile constitutes another cause of jaundice. This when habitual and not amounting to disease, seems to have been described by the ancients under the title of the melancholic temperament. The symptoms are a lassitude of body and dispiritedness, with jaundice of a dark or dingy yellow †. This kind of jaundice I should also suspect to be not unfrequently the cause of asthmatic affections. When the species of jaundice can be clearly ascertained, it would be right to

\* These ducts have also been found much dilated, even so as to admit a moderate sized finger at it's insertion into the duodenum.

† In the recent jaundice the color is of a bright light yellow: as happened once to myself, being compleatly jaundiced in one night. This was preceded by a constant pain for several days at the region of the gall bladder, which was relieved from the instant the jaundice took place: owing probably to the absorbents having removed the quantity of bile, which by distending the gall bladder caused the pain.

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make a rather free use of cathartics \*, assisted by such other medicines as the symptoms may require; especially antispasmodics with opiates; an attenuating diet and the free use of diluting liquids, in order to thin the blood and juices secreted from the same.—Haller says the bile becomes viscid, “quieto obeso and a mærore.

Another cause of jaundice, reckoned by some as the most common, is an obstruction of the small glands or biliary follicles in the liver. This however I imagine to be very seldom the real cause of jaundice, which may be more rationally deduced from a viscosity of the bile itself, flowing too slowly thro’ its natural ducts, and in consequence of this remora, admitting of some absorption of bile into the blood, and thus inducing jaundice.

\* Aloes are peculiarly adapted to this disorder, being endued with the property of rarefying the blood. Cullen’s Lectures on the Materia medica.

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The last general head under which I have classed bilious diseases, is when they are excited by the diseased state of the bile. Such cases I think are not frequent in england, or any of the northern climates.—An acrid state of the bile is capable of stimulating the bowels and stomach, thereby producing sudden and violent evacuations by vomit and stool, then called cholera morbus. Bilious diarrhæa's do also some times occur from this cause.

These symptoms have been treated on in some of the preceding pages, as arising from an excessive quantity of bile. It is also more than probable, that these two causes are united in some, perhaps most of such cases.—Fever from acrimony of bile are also sometimes met with here, particularly in hot and dry seasons.

In hot countries, bile is sometimes accumulated in the intestines, and becomes so highly putrid, as to cause not only fevers of a most dangerous kind; but, various other diseases.

But

But it appears to me, that such disorders are much more frequently caused by the contents of the stomach and bowels becoming putrid; for (especially in hot climates) I imagine that “animal food will always become putrid unless it be digested, or else evacuated sooner than is natural.” —Whereas human bile does not putrify more readily than the other secretions, or the blood \*.

It has been found in india that the sudden disturbance and evacuation of such bile, and contents of the *primæ viæ*, is a matter of great hazard, requiring nice discrimination, as many have died under the evacuations, as supposed from it's extreme acrimony. It should therefore be the practitioner's object to dilute and correct the ill state of such offending bile and putrid contents of the stomach and bowels, by proper diet and medicines, previous to the evacuation of such contents.

\* Fordyce, Elem. physic.

Another

Another general remark.—Chronic bilious diseases, and those of the liver, are preceded by costiveness: are often caused by anxiety of mind, and too frequently by drinking of spirits.—Some of the leading symptoms caused by drinking, are pain in the stomach, loss of appetite, symptoms of asthma, jaundice, and costiveness, the precursors of fatal consumption or dropsy \*.

It seems but rational to suppose that many of these diseases may be prevented by avoiding these causes; and by a due attention to the state of the bowels, which should be kept open daily.—By this I mean, that the mind should be relieved by company, change of scene and so on: but that the bottle should be refrained from as more particularly liable to

\* Vide memoirs of the medical society of london, vol. 1. page 152. the symptoms arising from drinking, accurately described by Dr. Lettsom, page 153 are these words, “ the liver seems less than natural ”.

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bring on disease of the liver at this period ; since it has been proved that anxiety of mind alone, is capable of inducing bilious diseases.— I know a gentleman who with a constitutional bad digestion, has drank part of a glass of brandy, and a bottle, often two, of wine daily after dinner, with few intermissions for forty years, without any apparent ill effect : but he has constantly kept his body open, and this he has done chiefly by the means of hiera picra.—This latter observation merits the particular attention of all those who drink freely, for I am persuaded that many liver diseases which end fatally might be thus prevented. In general some warm laxative will answer best ; that which will agree best may be discovered by each individual on trying various kinds : such as rhubarb, vinum aloes, or any such.—I should be sorry to be misunderstood as being the advocate of the free use of the bottle, being certain that it shortens life ; meaning what I have here advanced to apply to those who cannot lay aside this baneful practice,

practice, for such are still entitled to our aid \*.—Further, it is not the quantity alone which destroys the constitution, but the time when drank, for strong liquor taken into the stomach void of solid food will exert it's heating and corrugating powers over that organ and the liver with infinitely more effect than when it contains solid food, with which it will become well blended, and of consequence not so active upon these parts.

Lastly, pain at the pit of the stomach, being one very common attendant upon biliary diseases, I judged that the following observation, was founded on a fact of too much consequence to be omitted: viz. that the family remedy for this, is some spirituous cordial.—Language too keen cannot be held out against this custom, since to this the fatal termination of many of these cases in incurable liver disease, dropsey, &c. may be attributed, posi-

\* *Ad utilitatem vitæ, omnia consilia factaque nostra dirigenda sunt. Tacitur.*

tively in some instances, I think myself well founded in asserting, more than to the original distemper. Brandy and water is also a common but a most treacherous beguiling remedy, obnoxious to the same objections, and to the further one of the propensity which people have to encrease it's strength, in proportion to the progressive weakness of the stomach.— From my own experience I found it was the warm water which afforded the relief: a dish of warm coffee or tea \* was my remedy for two years, during which time I was constantly at noon afflicted with a pain at the stomach. But let us suppose that I had daily at noon, on an empty stomach during two years, that is more than seven hundred times, taken some cordial or strong drink: is it not more than probable than an incurable liver disease would have been the consequence? I am certain it would.

\* To those who have any dislike to these liquids, I would recommend a light infusion of ginger, orange peel, or any such warm mild bitter.

F I N I S .